

Records and Descriptions of South African Thysanoptera—V

by

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Suborder **TEREBRANTIA**

Family **THRIPIDAE**

EDISSA gen. nov.

Body elongate, slender, cylindrical; surface sculptured, but sculpturing visible only on specimens macerated in NaOH, and these should preferably be stained. Microsetulae not present but striations on abdomen suggest a vestiture of microsetulae.

Head about 0.7-0.9 as long as wide, and 0.8-1.1 as long as prothorax, distinctly excavated anteriorly between eyes, the excavated part declivous, almost vertical. Surface strongly sculptured behind ocelli, subreticulate behind eyes. Eyes large, prominent, strongly produced caudad on dorsal aspect, dorsal length about 1.2-1.8 the ventral length, dorsal interval about 1.1-1.6 times as wide as the dorsal width of each eye. Ocelli prominent, borne on a slight hump, anterior one at edge of frontal declivity. Antennae inserted at lower part of anterior surface of head, but their bases visible between eyes in dorsal aspect; seven segmented, second segment subglobose, third and fourth each bearing one simple sense-cone laterally at apex; sixth segment longest, seventh only about one-third as long as sixth. Mouth-cone short, rounded; maxillary palpi three-segmented, but in genotype some apparently two-segmented palpi present: out of a total of 129 palpi examined on 59 females and 10 males, 9 were two-segmented.

Prothorax about 1.3-1.7 times as wide as long, sides sub-parallel, surface of pronotum strongly sculptured with concentric ridges, posterior angles with two more or less recumbent, short spines, their length only about 0.1-0.2 the length of the pronotum. Pterothorax sculptured with anastomosing lines, not reticulate. Legs short, normal, hind pair fitted for jumping with conspicuous metathoracic furca.

Fore-wings similar to those of *Phibalothrips* and *Rhipiphorothrips* in shape, very narrow beyond basal third; hind margin straight but tip not dendrothripoid; width across scale about one-ninth, at middle only about one-twenty-second of length; prominent ambient vein present, nearly one-

third as wide as wing itself at about middle of wing, situated a slight distance from the wing margin; radial vein prominent only in basal third of wing at end of which it fuses with anterior part of ambient, but fusion not quite complete; a second longitudinal vein feintly indicated by a double row of minute microsetulae on ventral wing surface; about 16-20 costal setae, minute, 3 to 6μ in length; vein setae still smaller, about 7-9 on anterior vein and one in position of posterior vein near tip; on scale two or three minute setae on outer margin in addition to the two usual long setae at its apex; fringe of anterior margin inserted on ventral surface about 3μ from anterior margin, consisting of only about 5 to 11 hairs, 100μ in length, situated beyond middle of wing; posterior fringe of wavy hairs well developed on distal two-thirds of wing, longest of these about 317μ ; dorsal surface of wing with usual microsetulae which are curved. Hind-wings narrow, width at middle about one-twenty-fifth of length, one prominent longitudinal vein; fringe of wavy hairs on distal four-fifths of hind margin only, longest of these about one-half wing length; usual microsetulae present on wing surface.

Abdomen slender, cylindrical; surface sculptured with anastomosing lines that give a sub-reticulated appearance, on sides of tergites, leaving about 0.27 of width at about fourth segment smooth along mid-dorsal line, but smooth area progressively narrower caudad, and on vii and viii only the groove unsculptured; the reticles with very fine longitudinal striations simulating microtrichia, as in *Phibalothrips*; a longitudinal groove about 10μ wide and 5μ deep on mid-dorsal line, unsculptured; sculpturing also present on lateral aspects of abdomen and sternites weakly sculptured laterally. Segments iii to vii of abdomen in female with prominent laterosternites, bounded by distinct sutures, and also with well-differentiated laterotergites, although the sutures separating these from the tergites are obsolete in approximately the caudal eighth of their length. Laterosternites and laterotergites not so clearly differentiated in the male. A weak comb $15-20\mu$ wide present in both sexes at middle of caudal margin of tergites ii to viii, its teeth irregular and only $3-5\mu$ long; no teeth on hind margins of laterosternites or laterotergites. Segment ix in female about 1.4-1.6 times as long as segment viii, conical in dorsal aspect, projecting over base of x at its apex, where it bears three pairs of spines that are about as long as segment x. Ovipositor well developed, almost as long as segments viii plus ix. In male segment ix relatively smaller, about 0.9-1.2 as long as viii. Segment x of abdomen incompletely split above in some females, apparently entire in others; entire in male. No glandular areas visible on sternites of abdomen in the male.

Genotype: *Edissa flava* spec. nov.

This new genus resembles *Phibalothrips* Hood in the sculpturing and structure of the abdomen, the excavation of the head between the eyes, and the general appearance of the wings, but differs entirely in the structure of the antennae, the position of the sense-cones on the third and fourth

segments, in lacking distinct reticulation on head and thorax, and in having the maxillary palpi three-segmented. The genotype resembles *Prosopothrips longiceps* Faure in having the eyes prolonged backwards on the dorsal aspect but in other respects it is markedly different. The wing veins are similar to those of *Halmathrips* Hood but the new form could not be placed in this genus. The new genus resembles *Dendrothrips* Uzel in the structure of the head and eyes, but differs in having simple sense-cones, lacking strong median setae on the abdominal tergites, and having the wings not dendrothripoid. Distinctive features of the new genus are the distinct prolongation of tergite ix of the abdomen over the base of tergite x, the wing structure and the sculpturing of the pronotum.

***Edissa flava* spec. nov. (Figs. 1-4).**

Female (macropterous). Length 1.2-1.3 mm. Colour: Body and appendages pale yellow with the following exceptions: eyes dark red appearing black in transmitted light, ocelli bright red; a crescent-shaped black area on anterior aspect of frontal declivity; tip of mouth-cone brown; antennae: i and ii whitish, iii to v yellow, vi and vii brown; thorax slightly shaded with pale grey at lateral margins; over white paper can be seen: four pale grey spots on pronotum about over inner edges of coxae; on fore-wings most of scale, whole of posterior part of ambient vein and most of posterior fringe hairs grey, distal half of wing surface pale grey, on hind wings the vein and fringe hairs grey; all legs wholly yellow except fore-tibiae which bear a conspicuous light brown spot on ventral aspect, about 17μ in diameter and situated about 25μ from base. All body spines pale.

The structure of this species has been discussed above in the description of the new genus.

Measurements of holotype (macropterous female macerated in NaOH) in μ followed in parentheses by the ranges of this plus five female paratypes: Length (distended) 1280 (1200-1295); head length 96 (84-105), width across eyes 124 (124-129), at base 110 (110-129), interocellar and postocular setae about 6, eye dorsal length 79 (72-79), ventral 45 (45-58), dorsal width 36-40 (36-42), dorsal interval 48 (45-56), distance between posterior ocelli 14, between these and median 11; mouth-cone length from posterior dorsal margin of head 62 (62-91), maxillary palpus segments i,

EXPLANATIONS OF FIGURES.

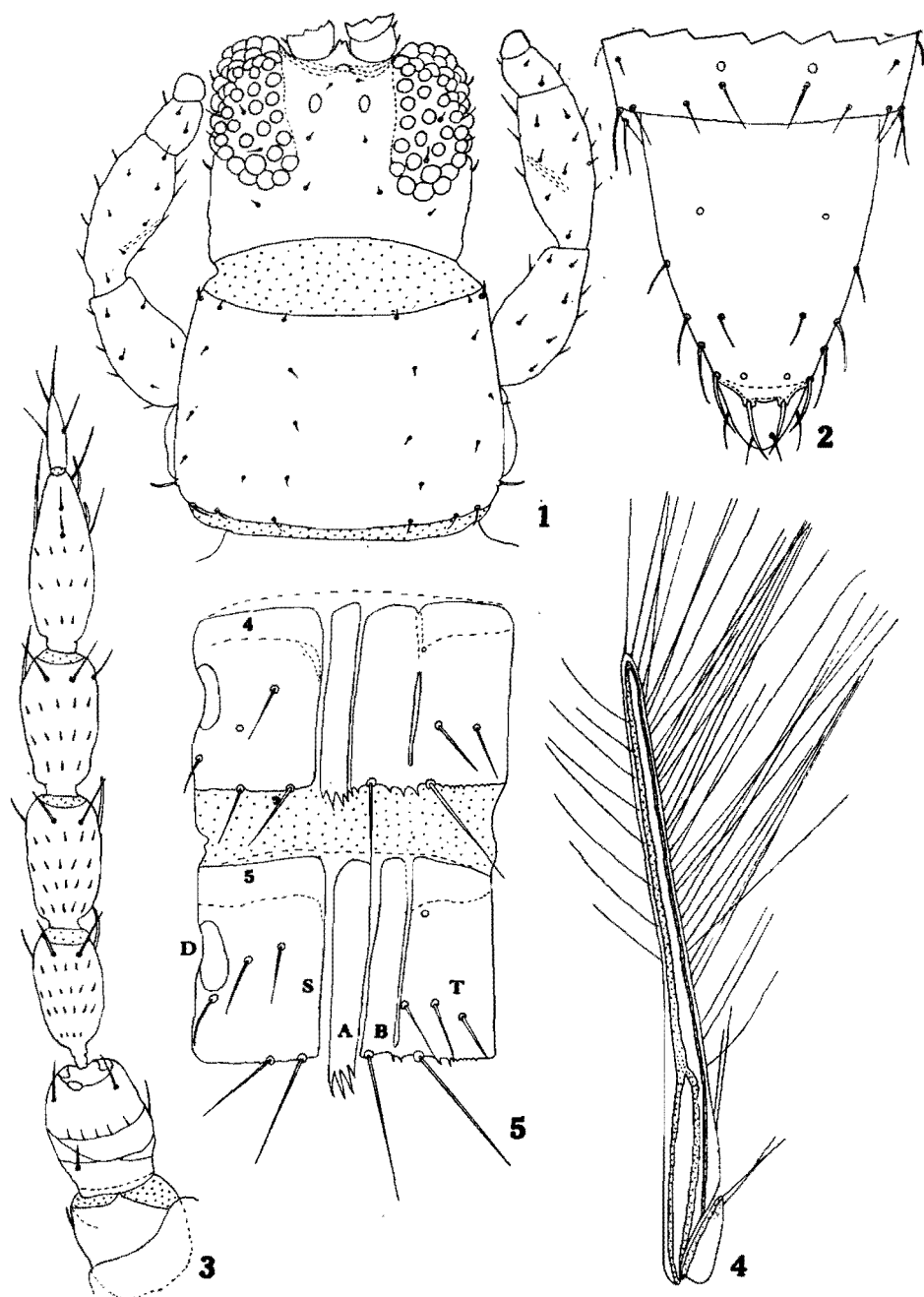
Edissa flava gen. et. spec. nov.

- Fig. 1 — ♀, paratype, head and prothorax.
- 2 — ♀, paratype, tip of abdomen.
- 3 — ♀, paratype, right antenna.
- 4 — ♀, paratype, right fore-wing.

Bolacidothrips orizae Moulton.

- Fig. 5 — ♂ paratype, segments 4 and 5 of abdomen, from left side: A — laterosternite, B — laterotergite, D — sense area, S — sternite, T — tergite.

Figs. 1-5 — S. Naude del. (projection apparatus).



ii and iii length 6 each, labial palpus length 8; pronotum length 100 (100-120), width 145 (145-161), setae: anterior angulars 8-11, anterior marginals 6, posterior angulars 11-14 (11-20), posterior marginals 8-11; pterothorax length 236 (230-245), width 193 (193-217); fore-wing length 600 (600-634); legs: length/width fore femur 79/39, tibia 79/34, tarsus 45/19, hind femur 112/34, tibia 101/28 (100-105/24-28), tarsus 56/19; abdomen length 827 (735-843), width 207 (207-231), segment viii length 77 (76-84), ix length 119 (105-128), spines on ix 34-31 (28-36).

Antennae: total length 200 (187-207).

Segm.	L.	W.	Segm.	L.	W.
i . . .	20 (17-22);	26 (22-26).	v . . .	32 (32-36);	17 (17-20).
ii . . .	31 (23-31);	25 (23-25).	vi . . .	43 (42-48);	17 (15-17).
iii . . .	31 (28-31);	17 (16-17).	vii . .	14 (11-14);	4 (4-6).
iv . . .	28 (28-30);	18 (16-20).			

Male (macropterous). Length 0.9-1.06 mm. Colour and structure as in the female with the exceptions mentioned above in the description of the genus.

Measurements of allotype (macropterous male) in μ followed in parentheses by the ranges of this plus five male paratypes: Length 900 (870-1060); head length 84 (84-91), width across eyes 118 (112-118), at base 114 (105-114); eye length dorsal 67-70 (64-70), ventral (41-48), dorsal width 36 (32-36), dorsal interval 45 (41-45); distance between ocelli in both directions 11; pronotum length 84 (84-91), width 141 (124-141), postero-angular setae 14-17 (8-17); pterothorax length 193 (189-196), width 174 (161-174); fore-wing length 510-524 (465-524), width across scale 58-62, at middle 23-25; legs: length/width fore femur 84/34, tibia 67/30, tarsus 45/17; hind femur 96/25, tibia 90/23 (77-90/23-28), tarsus 45/17; abdomen length 551 (540-675), width 180 (150-180), segment viii length 60 (52-60), ix length 60 (48-64), width 72 (72-80), spines on ix 32 (14-32), setae on sternite x 28-34 (28-40).

Antennae: total length 180 (172-182).

Segm.	L.	W.	Segm.	L.	W.
i . . .	20 (18-22);	22 (20-25).	v . . .	31 (31-32);	17 (16-18).
ii . . .	25 (20-25);	22 (22-24).	vi . . .	39 (36-40);	14 (14-16).
iii . . .	28 (25-28);	15 (15-17).	vii . .	14 (9-14);	4 (4).
iv . . .	28 (24-28);	17 (16-17).			

Material studied: 101 females and 40 males, all macropterous, collected by the writer on kikuyu grass, *Pennisetum clandestinum* Hochst., near a stream in Pretoria, February to May, 1947-1950.

Perisothrips vernoniae spec. nov. (Figs. 6-9).

Female (macropterous). Length 0.87-0.95 mm. Colour uniformly yellow, eyes black, ocelli bright red, mouth-cone brown along middle line in distal half; antennae largely grey: i and iii palest, almost pale yellow,

ii and iv to viii pale grey, distal half of vi and whole of vii and viii somewhat darker than rest, shaded with very pale brown.

Head very small, its length about 0.6 to 0.7 of its width; eyes large, bulging slightly, coarsely and closely faceted, sparsely setose, their dorsal length about two-thirds of head length, their dorsal width roughly one-third of head width and 0.8-1.0 of their dorsal interval. Posterior ocelli contiguous to eyes, about 24μ apart, and about 12μ from anterior ocellus; inter-ocellar setae about 12μ long, ante-ocellars about 8μ . Antennae as illustrated for brachypterous female; sense-cones slender; iii and iv with forked cones in dorsal and ventral positions, respectively, that on iv curved dorsad; v with one short cone near apex on outer side; vi with a long and slender cone on inner and a short one on outer side; vii with a slender cone on outer side. Mouth-cone long, slender, extending across prosternum, its length from posterior dorsal margin of head about 144μ . Maxillary palpi about 52μ long, segments i-iii respectively about 24, 12 and 16μ long, labial palpi about 12μ in length.

Prothorax as illustrated; the widest point is about one-third of length from base; length of pronotum 0.9 to 1.1 times its greatest width, setae at posterior angles and on hind margin about 12μ in length. Prothorax about 0.7-0.8 as wide as mesothorax. Mesonotum feebly transversely sculptured, metanotum with more pronounced longitudinal lines of sculpture. Wings long and narrow, slightly curved outwards; length of fore-wings about 435-520, width at scale 57-66, at middle about 33μ . Costa with 20-23 bristles, fore-vein with 3 or 4 near base, a second group of three, and three widely separated in distal half; posterior vein with 3 or 4 widely separated bristles; fringe developed mainly on distal half of both pairs; on fore-wing the fringe on hind-margin about 280-315 μ long, on fore-margin only about half as long. Fore-femur enlarged, length/width 82/57, tibia 82/33; tarsus 49/16; fore-tibia more or less rectangular at tip on inner side, with a minute blunt tooth on ventral side, about 3μ in length (not shown on the drawing). Hind femur also somewhat enlarged, length/width 115/41, tibia 111/25, tarsus 49/16 μ ; longest spurs at apex of hind tibiae about 14μ in length.

Abdomen about 540-600 long by about 203-205 μ wide, distinctly less sharply conical at apex than that of *parviceps* Hood and *halli* Faure; segment ten about 49-66 wide at base and about 16 to 33 μ wide at apex, as compared with about 41 and 12 μ respectively, in *parviceps*; longest setae on segment ix about 80, those on x about 72 μ long; ovipositor about 185 μ in length. Abdominal tergites, especially the first, with anastomosing transverse lines of sculpture.

Measurements of holotype (macropterous female macerated in NaOH) in μ , followed in parentheses by the ranges of this plus two macropterous paratype females: length 920 (870-950); head length 74 (66-74), width across eyes 103 (103-107), at base 103 (103-107); pronotum length 131 (124-131); width: anterior 99 (96-107), posterior 111 (107-135), greatest

123 (123-135); pterothorax length 160 (140-164), width 170 (168-172); abdomen length 540 (540-600), ovipositor 185 (175-186).

Antennae: total length 201 (201-204).

Segm.	L.	W.	Segm.	L.	W.
i . . .	16 (16);	24 (24).	v . . .	32 (28-32);	16 (16-18).
ii . . .	24 (24-28);	20 (20-22).	vi . . .	36 (36-38);	14 (14).
iii . . .	28 (26-32);	16 (16).	vii . .	8 (8);	4 (4-6).
iv . . .	28 (28-32);	16 (16-18).	viii . .	12 (12);	4 (4).

Female (brachypterous). Length 0.80 to 0.98 mm. This form is identical with the macropterous female in colour and structure, except that the wings are only about 84 to 96 μ in length, broadly rounded at apex, extending to posterior end of pterothorax.

Measurements of morphotype (brachypterous female) in μ , followed in parentheses by the ranges if this plus two brachypterous paratype females: length 980 (800-980); head length 66 (56-66), width across eyes 99 (98-99), at base 99 (94-99); eyes length 42-44, width 28-32, interval 32; pronotum length 123 (119-131), width: anterior 107, posterior 123, greatest 140 (123-140); legs: length/width fore-femur 99/45, tibia 74/25, tarsus 41/16, hind femur 99/33, tibia 103/25, tarsus 49/16; abdomen length 620, width 210, setae on ix 64, on x 64.

Antennae: total length 192 (189-196).

Segm.	L.	W.	Segm.	L.	W.
i . . .	16 (12-16);	24 (22-24).	v . . .	28 (28);	16 (16).
ii . . .	28 (28);	20 (20-22).	vi . . .	32 (32-36);	14 (12-14).
iii . . .	30 (28-30);	16 (16).	vii . . .	8 (8);	6 (4-6).
iv . . .	28 (28-30);	16 (16).	viii . .	10 (10-12);	4 (6).

Male (brachypterous). Length 0.71-0.82 mm. Colour like that of brachypterous female, except that antennae are paler, uniformly greyish yellow. Structure very similar to that of female. Tergites iv to vii of abdomen with two groups of 5-6 prominent sharply pointed teeth on the posterior margin, about 8 μ long by 2 μ wide at base, drawn out to fine points, the tips pointing laterocaudad, but more laterad than caudad; they occupy roughly one-third of the width of the tergite on both sides, leaving

EXPLANATIONS OF FIGURES.

Perisothrips vernoniae spec. nov.

Fig. 6—♀, macropterous, holotype, head and prothorax.

7—♀, paratype, left fore-wing.

8—♂, brachypterous, paratype, tergites 4-10 of abdomen.

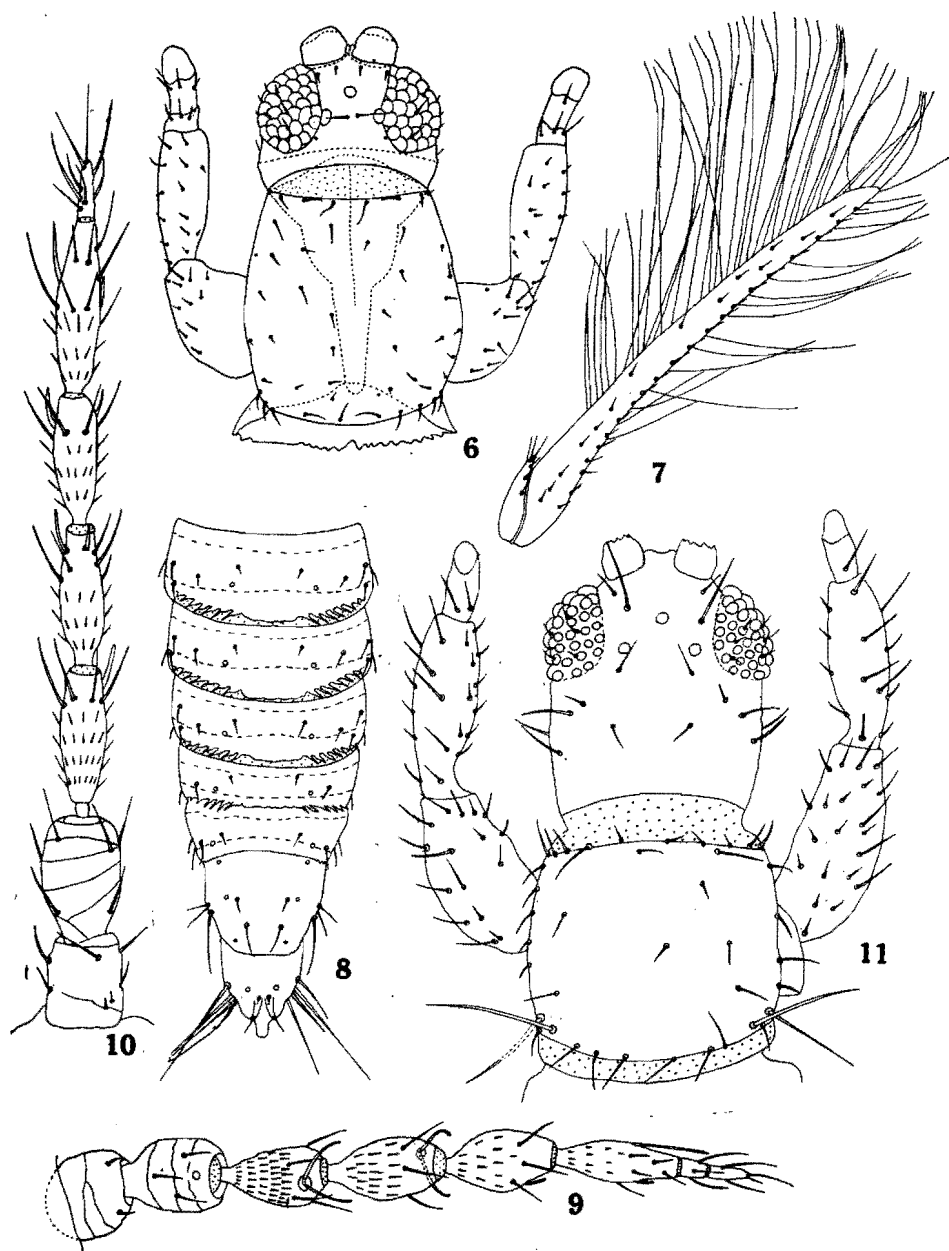
9—♀, brachypterous, paratype, right antenna.

Bolacidothrips orizae Moulton.

Fig. 10—♀, left antenna, ventro-lateral aspect (Pretoria ♀).

11—♀, head and prothorax (Pretoria ♀).

Figs. 6, 9 L. Pretorius del. Figs. 7, 8, 10, 11 S. Naude del. (Projection apparatus).



the median third unarmed. On tergite viii there are a few very weak and inconspicuous teeth on hind margin in lateral one-fourth on each side, but this armature is quite different from that on tergites iv to vii. The caudal margins of sternites i-viii unarmed.

Tergite ix bears about ten transverse broken rows of sculpturing. At the tip of tergite x there is a pair of median horn-like protuberances, contiguous at base but diverging apically; each horn is about $11-12\mu$ long by $3-4\mu$ wide, and bears a laterad-projecting finely-pointed seta, $8-12\mu$ long at its apex. Setae on dorsum of tergite ix about 20-24, those at latero-caudal angles $36-44\mu$ long. Longest setae at latero-caudal angles of segment x about $68-88\mu$ in length.

Fore tibia with a minute tooth on ventral side at apex, as in female; this is not the kind of tooth at apex of the inner angle illustrated by Hood for the genotype *P. parviceps* Hood (Insec. Inscit. Menstruus: VII, Nos. 4-6, plate III, fig. 6, 1919).

Measurements of allotype (brachypterous male macerated in NaOH) in μ followed in parentheses by the ranges of this plus three brachypterous male paratypes: length 820 (710-820); head length 57 (39-57); width across eyes 99 (92-100), at base 90 (90-94); interocellar setae 8-10; eyes length 40-44, width 30-32, interval 32; pronotum length 115 (115-129), width anterior 90, posterior 107, greatest 123 (118-126); pterothorax 138 (126-140), width 148 (148-154); fore-wing length 99 (84-99), width across scale 41 (41-51); legs: length/width fore-femur 90/49, tibia 82/28, tarsus 41/16; hind femur 99/37, tibia 107/25, tarsus 41/16; abdomen length 501, width 164.

Antennae: total length 181 (175-189).

Segm.	L.	W.	Segm.	L.	W.
i . . .	16 (14-16);	22 (20-22).	v . . .	26 (26-28);	16 (16).
ii . . .	24 (24-28);	20 (20).	vi . . .	30 (30-32);	12 (12).
iii . . .	26 (26-28);	14 (14-16).	vii . . .	8 (6-8);	4 (4-6).
iv . . .	24 (24-28);	16 (16).	viii . . .	10 (10);	4 (4).

Male (macropterous). Length about 0.8 mm. Colour and structure identical with those of the brachypterous male, except that fully developed wings, like those of the macropterous female, are present. On one of the macropterous males the teeth on hind margin of tergite iv are poorly developed, there being only two teeth on each side.

Measurements of morphotype (macropterous male) in μ : Length (distended) 870; head length 66, width 99; pronotum length 123, width 140; pterothorax width 170; fore-wing length 460, width across scale 57, at middle 33; fore-femur 107 by 49, tibia 82 by 28, tarsus 49 by 16; hind femur 107 by 41, tibia 107 by 28, tarsus 49 by 16; abdomen length 500, width 179; longest setae on tenth segment of abdomen 90-94.

Antenna: total length 181.

segment	i	ii	iii	iv	v	vi	vii	viii
length	12	28	28	28	28	32	8	12
width	20	20	16	16	14	14	4	4

Material studied: 120 mounted specimens; females: 18 macropterous, 80 brachypterous; males: 3 macropterous, 19 brachypterous; collected by the writer in Pretoria, September to November, 1946 to 1952, on tender shoots of the shrub *Vernonia kraussii* Sch. Bi. (determined by the National Herbarium). The macropterous forms were taken in November. Out of a total of 488 specimens collected, only 22 were males.

This new species differs from *P. (Bdalsidotherips) levis* Priesner in having the abdominal tergites iv-vii armed in the male, and in the presence of a small tooth on the fore-tibiae in both sexes. From *halli* Faure it can be distinguished as follows: male: no strong finger-like spines on tergites iv-vi, horn-like processes present at tip of tergite x, much weaker tooth on fore-tibia; female: tip of abdomen less sharply conical, ovipositor about 36μ shorter, pronotum 33 to 50μ narrower. From the genotype *parviceps* Hood the new species differs: male: no row of teeth across hind margin of tergite viii, two horn-like processes at tip of tergite x, hind margin of tergite vi not armed in median third; female: segments vi to viii of antennae not darker than rest of antennae, head relatively larger, small tooth on fore tibia at apex, abdomen not so sharply conical at tip, ovipositor about 33μ shorter.

***Bolacidotherips orizae* Moulton (Figs. 5, 10, 11).**

This species was erected by Moulton on three females taken on rice on the island of Guam in 1936. Mr. C. E. Pemberton kindly sent me one female taken on goose grass at Guam in 1947 by Mr. F. A. Bianchi and (?) identified by him. The specimens taken in Pretoria are slightly larger and a little deeper in colour than the female from Guam, but they do not differ in structural characters. I am redescribing the female in order to supplement Moulton's very brief notes, and describing the male, which has apparently not been recorded before.

Female (macropterous). Length (distended) 1.2-1.5 mm. Colour yellow; thorax and segments ix and x of abdomen orange yellow; eyes so deep red as to appear black, ocelli bright red; antennae: i to iv yellow, iv very lightly shaded with grey at apex; v yellow in basal half, grey in distal half; vi and vii brownish grey; fore-wings with two very pale greyish cross bands, each about one-fifth as long as wing, situated approximately in the second and fourth fourths of the wing length. No darker areas on abdomen.

Sculpturing: body and legs sculptured with anastomosing lines, except on median dorsal and ventral parts of the abdomen.

Head as illustrated; its length 0.9 to 1.1 the width across the eyes, which is 1.1 as wide as the width at the middle of the cheeks; head length

1.0 to 1.2 the width at middle of cheeks; eyes prominent, bulging, setose, their lateral and ventral facets larger than the dorsal ones; dorsal eye length about 1.3 the ventral eye length and 1.6 to 1.9 the dorsal eye width; dorsal eye interval 1.5 to 1.7 the dorsal eye width; distance between posterior ocelli about 36, between these and anterior about 22μ . Anterior ocellar setae prominent, $28-52\mu$ long; post-ocellars $12-20\mu$, post-oculars $22-36\mu$; a pair of prominent ventral head setae close to base of antennae about 60μ long, and an accessory pair close to them of about 20μ . Mouth-cone short and broadly rounded, its length from posterior dorsal margin of head about $95-105\mu$; palpi (measured on 3 females): maxillary length 28-34, segments length/width: i $10-12/6-8$, ii $18-22/4$; labial length 12-16, width 3μ .

Pronotum 0.8 to 0.9 as long as its own width, and 0.9 to 1.0 as long as the head; spines at posterior angles prominent, the outer pair usually slightly shorter, 48-73, the inner $56-84\mu$ long; anterior angulars 20-24, longest anterior marginal near angulars 20-36 μ . Pterothorax about as long as wide, mesothorax about 14μ wider than metathorax; mesothorax with a rather prominent hump on anterior angles, projecting about 14μ bearing the spiracles, thence its sides are rounded to a constriction at junction with metathorax; from here sides of metathorax more gently rounded. Fore-wings $620-717\mu$ long, their width at middle 0.07-0.09 of their length, sides nearly parallel, tips bluntly pointed; costa with 15-20 setae that can hardly be distinguished from fringe near apex, being about as long as fringe hairs; anterior vein with 10-16 setae, which are more widely spaced in distal half than at base, posterior vein with 8-12 more or less evenly spaced setae; veins not prominent; posterior fringe about 300μ long; hind wings with prominent median dark line, narrow, fringes normal. Legs normal, fore-femora moderately enlarged, hind femora 1.1-1.2 as long as hind tibiae.

Abdomen $720-960\mu$ long and $210-255\mu$ wide. Segments ii to viii with prominent setae at posterior angles, about 35 to 63μ long, increasing in length caudad; tergite viii with a weak comb on hind margin, the teeth only about 4μ long and present mainly in two lateral thirds; similar combs present on segments i-vii also, best seen on specimens mounted laterally and stained; tergite ix with three pairs of prominent setae, of which B.2 and B.3 are about $152-180\mu$ in length and one shorter pair in front of them; x with two dorsal pairs about $135-152\mu$ long. Sternites ii to vii with one to three very irregular rows of setae, and three pairs on hind margin. Laterosternites and laterotergites well developed on segments iii-v, similar to those illustrated for male, less distinct but present also on vi and vii.

Variability of numbers of setae on sternites. The accessory setae on abdominal sternites iv to vi were counted on 20 Pretoria females taken at random, and the one female from Guam, with the results shown in table I. At first sight the figures in columns 2 and 3 of the table might suggest that the female from Guam is not conspecific with the Pretoria series. But

the other figures show that the numbers of sternite setae are so variable, that large series of specimens from both localities would have to be used in order to obtain comparable and reliable figures. Therefore, if a series of specimens from Guam or other localities were examined, it would probably be found that the range of variation in their accessory setae would also be considerable, and that it would overlap the ranges of the Pretoria females. It does not seem probable that the numbers of these setae would furnish reliable characters for distinguishing between closely related species in this genus. Hood also found these setae variable in *Thrips spadix* Hood (Bull. Soc. roy. ent. Egypte 1932 pp 132-133).

TABLE I: Setae on abdominal sternites of *Bolacidothrips orizae* Moulton

Sternite	Guam female	20 Pretoria females			No. of specimens on which setae should be counted at P = 0.05
		Range	Average	S.D.M.	
iv	7	9-16	11.9	± 1.785	73
v	8	10-18	13.6	± 2.305	93
vi	9	11-17	14.5	± 1.877	54

Measurements of one macropterous female, followed in parentheses by the ranges of this plus 8 other Pretoria females, in μ : length 1260 (1213-1543); head length 163 (146-163), width across eyes 163 (149-163), at base 152 (138-152); eyes dorsal length 73-76; width 41-45, interval 73; pronotum length 141 (141-152), width 179 (163-185); pterothorax length 240 (207-240), width 225 (214-234); fore-wings length 705 (620-717), width across scale 77 (63-80), at middle 56 (48-56); legs: length/width: fore femur 152/67 (138-163/55-67), tibia 112/45 (101-118/39-45), tarsus 67/23 (52-67/19-23); hind femur 169/45 (157-169/39-56), tibia 157/39 (135-157/36-39), tarsus 62/19 (51-77/12-23), spurs on hind tibia 20-22 (17-28); abdomen length 720 (720-960), width 255 (210-255).

Antennae: total length 277 (247-283).

Segm.	L.	W.	Segm.	L.	W.
i . . .	20 (16-25);	30 (28-32).	v . . .	48 (40-48);	16 (16-18).
ii . . .	28 (24-36);	28 (28).	vi . .	60 (54-61);	16 (16-17).
iii . . .	44 (42-48);	16 (16-18).	vii . .	20 (20-23);	8 (7-8).
iv . . .	40 (40-45);	16 (16-18).			

Male (macropterous). Length (distended) 0.9-1.3 mm. Colour and structure as in the female, with the following differences: the male is smaller and slightly paler in colour; it has prominent crescent-shaped sense-areas on sternites iii to vii, about 56-92 μ wide, their length at sides 20-28, at middle 14-16 μ . On tergite ix the cephalic pair of setae is much longer (84-120 μ) than the caudal three pairs (40-52 μ); ix also bears two

long lateral pairs of setae (133-175 μ). On tergite x the median dorsal pair of setae (about 52 μ) shorter than the lateral pair (105-120 μ). Laterosternites and laterotergites present on segments iii to v, as shown in figure 5, the sutures less distinct on segments vi and vii. Wing vein setae: anterior vein 10-13, posterior 7-10 (on 5 males).

Measurements of allotype (macropterous male macerated in NaOH), followed in parentheses by the ranges of this plus four other Pretoria males, in μ : Length 1200 (990-1275), head length 129 (126-140), width across eyes 132 (129-143), at narrowest immediately behind eyes 115 (115-129), at widest behind eyes 119 (119-133); antecellar setae 28-32 (20-44), postocellars 16 (12-20), postoculars 20 (12-28); eyes dorsal length 56-60 (56-66), width 36 (35-42), interval 60 (54-66), ventral length 48; distance between posterior ocelli 32, between these and anterior 20; mouth-cone: length from posterior dorsal margin of head 70 (63-96), maxillary palpus 30; pronotum: length 105 (105-119), width 133 (126-161), setae: antero-angulars 16 (12-20), marginals 28 (20-36), postero-angulars outer 32-36 (32-56), inner 44-48 (32-68); pterothorax: length 195 (168-217), width 182 (161-196); fore-wings: length 412-435 (412-510), width across scale 56 (52-63), at middle 38 (38-42); legs: length/width fore femur 119/45, tibia 91/31, tarsus 49/14; hind femur 133/35 (126-147/35-49), tibia 112/31 (112-133/31-35), tarsus 56/16 (49-63/16-21); abdomen length 735 (585-780), width 175 (175-196).

Antennae: total length 232 (210-247).

Segm.	L.	W.	Segm.	L.	W.
i . . .	20 (16-20);	26 (26-28).	v . . .	40 (36-40);	16 (16).
ii . . .	28 (24-32);	24 (24-26).	vi . . .	52 (50-54);	16 (16).
iii . . .	34 (34-40);	16 (16).	vii . .	20 (18-20);	8 (8).
vi . . .	32 (32-40);	16 (14-16).			

Material studied: 128 macropterous females and 37 macropterous males, taken by the writer in Pretoria on kikuyu grass, *Pennisetum clandestinum* Hochst., February to May, 1947-50.

B. orizae Moulton differs from *graminis* Priesner in being slightly smaller, without brown at tip of abdomen, and having the third and fourth antennal segments relatively shorter and broader. *B. continuus* (Karny) differs from *orizae* as follows: segments v-vii of the antennae are black; segments iii-v of the antennae and the hind femora are shorter.

Suborder TUBULIFERA

Family PHLAEOTHRIPIIDAE

Neothrips tertius spec. nov. (Figs. 12-14).

Female (apterous). Length (distended) 1.68-2.01 mm. Colour blackish brown to black, with a metallic sheen on dorsal aspect, with these exceptions: antennae: i brown, ii brown with paler area around areola, iii yellowish brown, iv-viii dark brown; all trochanters, tips of all tibiae,

basal part of fore-tibiae, middle and hind tarsi light brown to yellowish brown, fore-tarsus and its tooth largely yellow; setae and spines pale, transparent, lightly tinged with yellow, except longer set at apex of tube which are dark grey.

Sculpturing: head, thorax and tergites i to iii of abdomen reticulated, rest of abdomen and appendages with anastomosing lines of sculpture that tend to form weak reticulations on the intermediate abdominal tergites.

Head 1.0 to 1.2 times as long as its greatest width, which is at about the middle of its length, and 0.8 to 1.1 as long as the pronotum. Owing to the great length of the mouth-cone the heads of mounted specimens are tilted downwards to some extent. Surface of head raised somewhat along median dorsal line, this ridge forming a prominent hump, medially notched, between the eyes; the hump and the eyes together project over about the basal fourth of the first antennal segment; cheeks sub-parallel, converging slightly at extreme base and more distinctly from level of postoculars to the eyes, which only extend laterad to about 6 to 10 μ from a line produced forward from widest part of cheeks; head width across eyes 18-25 μ less than its greatest width; the apterous female differs from the macropterous form in the size and shape of the eyes. Eyes prominent, bulging, closely but coarsely faceted, about 12-15 ommatidia visible in dorsal aspect, one of which at middle of outer margin is about twice as large as the rest; dorsal length of eye about 4 μ longer than its ventral length, and the dorsal width of each eye about 0.8 of the distance between them. Postoculars 44-64 μ long, broadly expanded at apex, situated about 8 μ from the eyes and on a line drawn through the middle of each eye; a pair of setae between postoculars, another just behind these, and a few finer setae on cheeks and scattered over head surface. Ocelli absent. Mouth-cone very long and slender, pointed, extending across prosternum, its length from posterior dorsal margin of head about 250-280 μ ; maxillary palpi: segment i 4, ii 40 μ long by about 4 μ wide, labial palpi: i 16, ii 24 μ long. Antennae as illustrated. Sense cones: iii, (?) 1-1; iv, 1-1; v, 1-1 (+1); vi, 1-1 (+1); vii, 1d; viii, 1 small d. The cones on iii are very slender and difficult to distinguish from setae, therefore one could say that cones are absent from iii. On v the supplementary small cone appears to be missing on some apterous females.

Prothorax as illustrated, the pronotal spines broadly expanded at apex; the second (inner) epimeral seta variable, pointed and short on some females, strong and expanded in others, as illustrated, its length on 8 females ranging from 12 to 44 μ . Anterior angles of mesothorax produced into a blunt point about 7 μ long. Legs normal, fore-tarsal tooth 10-24 long by 12-21 μ wide.

Abdomen broad and heavy; spines at postero-lateral angles of tergites broadly expanded at apex, similar to those on pronotum; the measurements in this paragraph are those of the holotype in μ : i with one pair of spines about 36 long; ii to iv with two pairs ranging from about 26 to 48, the

outer pair shorter; v and vi with two more or less equal pairs, 44 to 60; on vii the outer pair is weakly expanded, 76-84 long, the inner pair expanded, 60-68 long; on viii both pairs expanded outer 76, inner 60 long; on ix the setae, numbered from median dorsal line outwards: 1 and 3 expanded, 4, 5 and 6 pointed, 1: 84, 2: 20-24, 3: 68-76, 4: 20-24, 5: 148-156, 6: 20-20 long. Sigmoid setae absent. Sternites ii-viii with one pair of thin pointed median setae about 70-100 μ long and a row of very fine, short setae in front of them. Tube 1.8 to 2.0 times as long as its width at base, which is 1.8 to 2.2 times as wide as the apical width; sides converging evenly from base to apex; surface weakly sculptured, bearing scattered minute setae; at apex six long setae 133-147 μ long, six shorter ones about 52 μ intercalated between them, a median dorsal seta of about 40 μ and a pair of ventral dagger-shaped setae about 20 μ in length; all tube setae pointed.

Measurements of holotype (apterous female macerated in NaOH) in μ , followed in parentheses by the ranges of this plus 7 apterous female paratypes: Length (distended) 1860 (1680-2010); head length 161 (147-192), width across eyes 150 (136-150), at widest 168 (154-175), at base 164 (164-150); eye dorsal length 56, ventral 52, dorsal width 45, interval 56; postoculars 56 (44-64); pronotum length 182 (161-196), width including coxae 392 (336-392); spines: antero-angulars 40-44 (28-52), marginals 28-32 (28-40), mid-laterals 28 (24-40), epimerals 60-64 (60-88), additional epimerals 12-24 (12-44), posterior marginals 44-52 (44-56), coxals 56 (40-60); pterothorax length 180, mesothorax width 375; legs: length/width: fore femur 182/90, tibia 133/45, tarsus 73/35, tooth 21/14 (10-24/12-21); middle femur 119/52, tibia 126/42, tarsus 56/28; hind femur 189/66, tibia 175/42, tarsus 77/28; abdomen length 1260, width 442, tube length (segment x only) 154 (140-168), width at base 80 (77-88), at apex 42 (38-42).

Antennae: total length 360 (337-390).

Segm.	L.	W.	Segm.	L.	W.
i . . .	28 (28-32);	32 (28-32).	v . . .	52 (44-56);	34 (32-34).
ii . . .	40 (40-48);	36 (36).	vi . . .	48 (44-54);	32 (30-32).
iii . . .	48 (44-56);	30 (28-34).	vii . .	52 (48-56);	28 (24-28).
iv . . .	52 (44-60);	36 (32-36).	viii . .	24 (20-28);	14 (14-16).

Female (macropterous). Length (distended) 2.04 mm. Colour and structure the same as those of the apterous form, with the following differences: the eyes are larger, as shown on the drawing; ocelli are present, situated on a prominent, raised hump; the distance between anterior and posterior ocelli 28, between posterior pair 40 μ , diameters: transverse/longitudinal—anterior 16/8, posterior 16/20. The pterothorax is larger, 315 long and 405 μ wide.

The fore-wings are broken off, only about 315 long, 70 μ wide across the scale; two subbasal setae, expanded, 44 and 52 μ long. Abdominal

spines similar to those of apterous female: on ii to vi the inner pair about $10\text{--}20\mu$ longer, on vii and viii the outer pair about 20μ longer than those of holotype; ii to vii each bear one pair of prominent sigmoids, on ii, 36 on the other tergites $72\text{--}88\mu$ long. On ix seta 1: $92\text{--}95$, 3: $91\text{--}100$, 5: $156\text{--}161\mu$ long; tube setae, longer 144, shorter 44μ .

Measurements of morphotype (macropterous female macerated in NaOH) in μ : Length 2040, head length 189, width across eyes 168, at widest 168, at base 154; eye dorsal length 70-73, ventral 42, dorsal width 49, interval 70; postoculars 48-56; mouth-cone length from posterior dorsal margin of head 225, maxillary palpi 40; pronotum length 168, width including coxae 357; spines: anterior angulars 44, marginals 36-38, mid-lateral 40, epimerals 80-92, additional epimerals 8-20, postero-marginals 48-60, coxals 56-72; legs: length/width fore femur 180/75, tibia 120/45, tarsus 75/30, tooth 22/14; hind femur 180/60, tibia 180/45, tarsus 67/30; abdomen length 1290, width 405, tube length 168, width at base 77, at apex 38.

Antennae: total length 345-360.

Segment	i	ii	iii	iv	v	vi	vii	viii
length	28	40	56	52	52	56	56	24
width	32	36	32	32	32	30	28	16

Male (apterous). Length 1.6-1.7 mm. (distended). Colour and structure as in the apterous female, with the following exceptions: Fore tibiae somewhat more yellowish, fore tarsi and their teeth more yellow; produced anterior angles of mesothorax more pronounced, sharper; abdominal spines: outer on viii about 20μ shorter, on ix: B.3 about 30μ shorter.

Measurements of allotype (apterous male macerated in NaOH) in μ , followed in parentheses by those of a male paratype (NaOH treated): Length 1560 (1680); head length 154 (154), width across eyes 133 (129); greatest width 154 (154), at base 147 (147); eye dorsal length 48-52, ventral 44-48, eyes dorsal/ventral length 48/44, 52/48, dorsal width 36, interval 61; postoculars 56-60 (60); pronotum length 175 (203), width including coxae 342 (350); spines: antero-angulars 44 (40-58), marginals 36-40 (38), midlaterals 40-44 (40), epimerals 64 (52-64), additional epimerals 12 (16), posterior marginals 48-52 (44-48), coxals 52-56 (56); pterothorax length 180 (165), width 330 (330); legs: length/width fore-femur 245/105 (273/105), tibia 119/42 (119/49), tarsus 70/42 (56/35), tooth length 28-35 (28); (these two males are oedymorous; another male has fore-femora 195/75, tarsal teeth length 17-21); hind-femur 168/63, tibia 161/38, tarsus 70/35; abdomen length 1020 (1035), width 390 (378); tube length segment x only 133 (147), width at base 70 (70), at apex 35 (35), longest apical tube setae 105 (140).

Antenna: total length 367.

Segment	i	ii	iii	iv	v	vi	vii	viii
length	32	44	52	52	52	52	52	24
width	28	34	28	32	32	28	24	14

Material studied: 19 apterous females, one macropterous (deälated) female and 6 apterous males, taken by the writer at Onderstepoort, Pretoria, May, 1953, beating living branches of *Acacia karroo* Hayne.

This new species differs from the genotype *N. corticis* Hood and *N. obesus* Faure as follows: much darker colour; larger eyes and a hump between them; well-developed reticulation, especially on head; absence of well-developed sense-cones on segment iii of antennae; larger fore-tarsal teeth in both sexes; tube relatively longer and narrower at base; longer epimeral spines; tendency for additional epimerals to develop. The shape and size of the eyes, the reticulation, and the less complete union of segments vii and viii of the antennae might be regarded as characters warranting the generic separation of *tertius* from *N. corticis*. The new species resembles *Rhynchothrips turkestanicus* John rather closely, but differs in having: (i) no well-developed sense cones on iii of antennae, (ii) more broadly expanded major setae, and (iii) more distinct reticulation on head. But both *tertius* and *turkestanicus* do not seem to belong in the genus *Rhynchothrips*, because *Rh. pruni* Hood, the genotype, lacks fore-tarsal teeth and broadly expanded major setae. For the present, I think *tertius* is therefore well placed in *Neothrips*. It differs from the three African species of *Rhynchothrips*, namely *aethiops* (Karny), *bedfordi* Moulton and *obscurus* Moulton in having teeth on the fore-tarsi, and segments iv and v of the antennae dark.

Stephanothrips occidentalis Hood and Williams.

1925 Hood and Williams, *Psyche*, vol. 32, p. 503; 1927 *Ann. Ent. Soc. Amer.* vol. 20, pp. 6-8, pl. I, pl. II, figs. 3-5.

This species was originally described from St. Croix and Trinidad in the West Indies. In 1929 Hood recorded it from Florida, U.S.A., and in 1937 Sakimura reported it from Hawaii. I have 14 females taken in Natal and Zululand which agree well with the original descriptions and figures, and with two females determined by Hood which I have been able to study through the kindness of Dr. Hood and Mr. Jacot-Guillarmod. Most of the South African specimens have the lateral crown spines about 10μ longer than the two from Florida.

Material studied: Natal: Port Shepstone 9th March, 1940, 1 ♀, W. Powell, on *Asparagus falcatus* L.; Zululand: Dukuduku 3rd March, 1940,

EXPLANATIONS OF FIGURES.

Neothrips tertius spec. nov.

Fig. 12 — ♀, macropterous, morphotype, head and prothorax.

13 — ♀, apterous, paratype, left antenna.

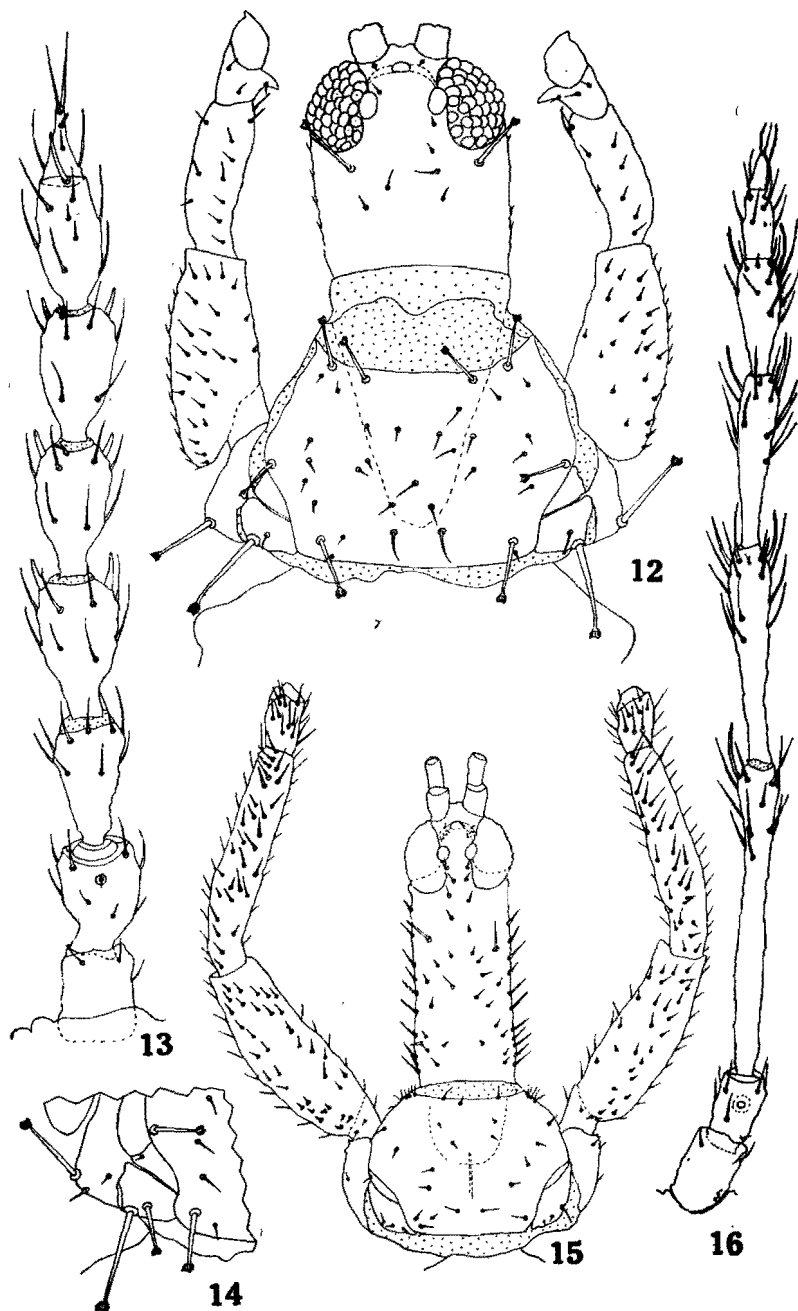
14 — ♀, apterous, paratype, left hind angle of prothorax, showing large second epimeral spine.

Gigantothrips caudatus (Bagnall).

Fig. 15 — ♂, allotype, head and prothorax.

16 — ♂, paratype, left antenna.

Figs. 12-16 S. Naude del. (Projection apparatus).



1 ♀, beating dead branches, W. Powell; Richards Bay, June, 1943, and April, 1945, 10 ♀♀ collected by the writer in beating dead branches of indigenous trees.

Gigantothrips caudatus (Bagnall) (Figs. 15, 16).

1910 *Panurothrips caudatus* Bagnall, Ann. S. African Mus. v, pp. 427-428.

1921 *Gigantothrips caudatus* Bagnall, Ann. Mag. Nat. Hist. 9: vii, p. 365.

1930 *Gigantothrips caudatus* Moulton, Ann. Mag. Nat. Hist. 10: v, p. 416.

In 1948 Miss B. Bradford kindly sent me a series of specimens of this large thrips from Grahamstown, C.P. Bagnall's original description was based on a unique specimen, without antennae, taken at Knysna, C.P. I have been informed by Dr. A. J. Hesse of the South African Museum in Cape Town that the type is not in the Museum. Since the Bagnall collection of Thysanoptera is now in the British Museum, I also enquired whether the type is in that institution, but have been advised by Dr. W. E. China that it cannot be found there. In 1930 Moulton recorded one female and two males of the species from Port St. Johns, Pondoland; he did not give any descriptive notes, describe the male or mention whether he had labelled his specimens as (neo)types. I am therefore re-describing the species and labelling one female neoholotype, one male allotype, and 23 male paratypes.

A detailed comparison of Bagnall's description and figures with my material leaves very little doubt that Bagnall's type and my specimens are conspecific. It would appear from the size of the setae on segment ix of the abdomen (fig. A.) that Bagnall's type was probably a female; these setae are much weaker in the males. The seta on the right epimeron of the prothorax is drawn about four times longer than the setae on the specimens before me; but in view of the close agreement in most other respects, I am satisfied that I am dealing with Bagnall's species.

Priesner has pointed out (Proc. R. ent. Soc. London B: 6, p.134, 1937) that the genera *Gigantothrips* Zimm. and *Cercothrips* Hood are very close together. I have compared *caudatus* with the descriptions of all the known species of both genera and found that it differs from all of them, and is probably best placed in *Gigantothrips*. This species does not fit well into Priesner's key to the genera (Bull. Soc. Fouad Ier Entom. 33, 1949, pp. 109-110); at couplet 887 (894) *caudatus* runs to 894 because it has many stout cheek spines, especially in the male, but on the length of the tube it should go under 887.

Female (macropterous). Length (distended) 5.19 to 6.70 mm. Colour: dark brown to black, except distal third of tube, all tarsi and trochanters which are paler, light brown to yellowish brown and antennae which are largely yellow: i dark brown, ii lighter brown, iii yellow except about one-ninth to one-tenth distally, shaded with grey-brown; iv yellow, with distal third to fourth grey-brown; v yellow in basal half, rest pale grey-brown; vi brownish in distal half; vii yellow in basal third to fourth only; viii wholly light brown. All spines and setae on body and appendages

more or less light brown in colour except the sub-basal fore-wing setae and terminal tube setae which are yellow. Wings very faintly shaded with yellow, hind wings with distinct median dark line in basal two-thirds; forewings with a grey band about 30μ wide on both margins on about distal 5/6ths of length, i.e. on part bearing fringe; this band less well developed on anterior margin of hind wing only; wing fringes dark.

Body not strongly sculptured, bearing fine transverse striae which form reticulations laterally on the abdominal tergites and sternites, especially on segments viii and ix and on tube; on metanotum striae are longitudinal in anterior half, reticulations well developed on posterior half; median plate of tergite i of abdomen also strongly reticulated.

Head 2.0 to 2.35 times as long as wide, width across eyes equal to greatest width near base in 6 out of 9 females measured, and about 20 to 35μ narrower in the other 3 females; its width at narrowest immediately behind the eyes about 30μ less than the greatest width; cheeks almost parallel, flaring very slightly near the base. Eyes evenly rounded, protruding slightly, closely and evenly faceted, their dorsal and ventral lengths equal, and comprising nearly one-fourth of the total head length; their dorsal width about 90 to 101μ , their dorsal interval about 73μ . Ocelli on a distinctly raised hump which attains the bases of the antennae, and projects very slightly over them in some cases; it extends slightly further cephalad in both sexes than shown on the drawing of the male, the median ocellus being more or less on a line with the anterior margins of the eyes; distance between posterior pair about 35μ , between them and median 35 to 45μ ; diameter of each ocellus about 28μ . Cheeks bearing about 8-12 pointed spines scattered over their length, these about 28 to 45μ in length; about 20 similar setae on dorsal aspect of head; about twice as many on ventral side, in addition to two long ones (about 120μ) near antennae and two or three similar setae near base of mouth-cone. Surface of cheeks roughened by transverse striae which extend right around the head. Postocular spines variable in size and in position, length 37- 70μ , distance from eyes 67- 126μ ; in some cases left further cephalad than right and vice-versa; in one female right postocular missing. Antennae as illustrated for the male. Sensecones rather slender, the formula: iii, 0-1; iv 1-2 (+1); v, 1-1 (+1); vi, 1-1 (+1); vii, 1 d. Segments vii and viii not very closely united, the terminal segments not produced ventrally at apex. Mouth-cone short and broadly rounded, its length from posterior dorsal margin of head 195 to 225μ ; maxillary palpi, length 84, segment i: 14, ii: 70; labial palpi about 28μ long. Prothorax: width (including coxae) about 2.08 to 2.59 times the length of pronotum; surface of pronotum almost without sculpture, the major setae weak, sometimes missing, variable in length, finely pointed, weaker than cheek spines, their length on neoholotype: antero-angulars 28-39, antero-marginals 28-37, midlaterals 45, epimerals 37-39, accessory epimerals 23-39, posterior marginals 28, posterior median marginals 45-51, coxals 23μ . On anterior angles there is a small group of fine setae more or less as illustrated on the figure of the male.

Pterothorax sub-quadrate, sides of metathorax rounded, its width about 1.3 to 1.4 times width of prothorax including coxae. Legs slender, bearing many setae similar to cheek spines; fore femora not enlarged, fore tarsi without teeth. Wings broad, heavy, parallel-sided, with well-developed fringe; measurements of four females give the following ranges in μ for fore-wing: length 1860-2280, width at middle 180-217, fringe length 405-469, sub-basal setae 4 to 5 in number, pointed, slender, length 42-84; 19-27 duplicated cilia present. Hind wings bear a row of 3 to 6 strong spines, about 28μ long by 4μ wide at base, each with a short tooth standing at right angles; these spines are opposite the scale of the fore-wing and probably hook on to a vein on the latter.

Abdomen long and slender, its length excluding the tube about half the length of the body including the tube, its greatest width about one-fifth of its length excluding the tube. Abdominal setae and spines well developed, all sharply pointed; the following ranges are based on measurements in μ of three females: tergite i bears one pair of postero-angular spines of 63-79 and a group of about 15-20 setae, 17-34 long, in front of them; ii to vi bear: one pair of well developed sigmoids near hind margin, and a second pair in front of them that also tend to become curved, these two pairs ranging from 101 to 146 in length; ii has one pair of strong postero-angulars 101-118 long by 9 wide; iii to vi each have two pairs of strong postero-angular spines ranging from 107 to 135 by about 11 wide; ii to vi also bear a group of about a dozen prominent setae 34-112 long on each side, laterad and cephalad of the sigmoids; on vii to ix setae of lateral group much weaker and fewer in number, the postero-angulars well developed ranging from 84 to 152 long by 6 to 11 wide; the ventral setae all much weaker than the dorsal ones.

Tube very long and slender, about 2.5 to 2.9 times as long as the head, and 0.33 to 0.39 the length of the rest of the body in 9 females measured; it is not straight but bent upwards in basal third, thence curving down again, very slightly towards apex. In dorsal aspect the tube is approximately parallel-sided in basal half, thence the sides converge very gradually to the apex; width at base about 1.6 to 2.0 times width at apex; surface roughened by reticulations, and bearing numerous finely pointed setae, about 50μ long and about 30μ apart but more sparse at apex; six terminal tube setae about 276 to 285μ long, and six others much thinner and about one-third as long.

Measurements of neoholotype (macropterous female macerated in NaOH) in μ , followed in parentheses by the range of measurements of this plus 8 other females: Length (distended) 6592 (5185-6704), head length 606 (482-610), width across eyes 269 (241-270), at narrowest close to eyes 245 (217-247), near base 269 (248-285); prothorax length 228 (207-280), width including coxae 586 (480-586); legs: length/width fore femur 444/148, tibia 444/111, tarsus 185/74; middle femur 481/111, tibia 481/92, tarsus 185/74; hind femur 592/111, tibia 592/74, tarsus 222/74;

abdomen length without tube 3296, greatest width 704; segment ix length 262, width at base 262 at apex 193; tube length 1666 (1295-1740), width at base 138 (97-138), at apex 69 (60-75), terminal setae 276 (238-285).

Antennae: total length 1055 (877-1055).

Segm.	L.	W.	Segm.	L.	W.
i . . .	73 (42-73);	62 (49-62).	v . . .	174 (147-174);	45 (42-51).
ii . . .	62 (59-62);	51 (42-51).	vi . . .	129 (98-129);	48 (39-51).
iii . . .	309 (241-309);	39 (35-39).	vii . .	79 (56-79);	37 (34-37).
iv . . .	202 (165-207);	45 (42-51).	viii . .	51 (35-51);	23 (17-23).

Male (macropterous). Length (distended) 6.56 to 7.45 mm. Similar to female in size, colour and structure, with the following differences: the head is much more spiny, there being about 12 to 15 slightly heavier cheek spines, and the ventral surface bearing about 20 heavier pointed spines on each side, about 30 to 40 μ long and 6 to 8 μ wide; the head is about 20 μ wider across eyes than near base in 6 out of 9 males measured, whereas in 6 out of 9 females it is as wide across eyes as near base; segment viii of abdomen more elongate and slender; spines at the hind angles of segments vii to ix of the abdomen are 20-45 μ shorter and usually only about half as thick as in the female. The sculpturing of the tube is different with prominent fine longitudinal, anastomosing striae in the male, and less distinct and fewer reticulations.

Measurements of allotype (macropterous male macerated in NaOH) in μ followed in parentheses by the range of measurements of this plus 8 other males: Length (distended) 6778 (6555-7445); head length 661 (600-667), width across eyes 262 (255-277), at narrowest close to eyes 227 (221-234), near base 241 (240-276); prothorax length 248 (245-285), width including coxae 592 (524-634); legs: length/width fore femur 518/148, tibia 518/111, tarsus 185/74; middle femur 518/148, tibia 518/111, tarsus 185/74; hind femur 592/148, tibia 592/111, tarsus 222/74; abdomen length without tube 3407, width 647 (585-722), segment ix length 303, width at base 248, at apex 207; tube length 1684 (1555-1852), width at base 138 (111-138), at apex 69 (67-75), terminal setae 276 (210-276).

Antennae: total length 1129 (1050-1222).

Segm.	L.	W.	Segm.	L.	W.
i . . .	90 (67-90);	56 (53-62).	v . . .	185 (174-191);	45 (41-49).
ii . . .	67 (56-67);	48 (45-51).	vi . . .	141 (124-141);	45 (42-49).
iii . . .	332 (315-382);	42 (38-42).	vii . .	73 (67-84);	34 (30-35).
iv . . .	219 (208-248);	51 (45-51).	viii . .	45 (39-56);	23 (17-23).

Material studied: 26 females and 24 males taken by Miss B. Bradford at Grahamstown, C.P., in June, 1948, on the leaves of a stinkwood tree (*Ocotea bullata* E. Mey.) infested with a gall-forming psyllid.

G. caudatus (Bagn.) comes close to the West African *baculifer* Priesner in the relative lengths of head and tube, but differs in having much shorter epimeral spines on the prothorax, 19-29 duplicated cilia on fore-wing as against 6-12, much longer third antennal segments, three sense-cones on segment iv, and postoculars that are in most cases very distinct from the cheek spines.